

CLAIMSWhat is claimed is:

1. A process comprising contacting a product mixture with a base,
5 optionally in the presence of a polyhydric alcohol, to produce a base-treated mixture and introducing said base-treated mixture to a distillation apparatus wherein said product mixture comprises an aromatic amine and a phenolic compound.
2. A process according to claim 1 wherein the molar ratio of said base
10 to said phenolic compound is in the range of from about 1:1 to about 4:1.
3. A process according to claim 1 wherein the molar ratio of said base to said phenolic compound is in the range of from about 1:1 to about 2:1.
4. A process according to claim 1 wherein said base is lithium
15 hydroxide, sodium hydroxide, sodium hydrosulfide, sodium bisulfide, potassium hydroxide, potassium hydrosulfide, potassium bisulfide, calcium hydroxide, magnesium hydroxide, sodium bicarbonate, sodium carbonate, sodium sulfide, sodium oxide, magnesium oxide, calcium oxide, calcium carbonate, sodium phenoxide, barium phenoxide, calcium phenoxide, tetramethylammonium hydroxide, tetraethylammonium hydroxide, tetrapropylammonium hydroxide,
20 tetramethylammonium bisulfide, tetraethylammonium bisulfide, or combinations of any two or more thereof.
5. A process according to claim 2 wherein said base is lithium
hydroxide, sodium hydroxide, sodium hydrosulfide, sodium bisulfide, potassium hydroxide, potassium hydrosulfide, potassium bisulfide, calcium hydroxide,
25 magnesium hydroxide, sodium bicarbonate, sodium carbonate, sodium sulfide, sodium oxide, magnesium oxide, calcium oxide, calcium carbonate, sodium phenoxide, barium phenoxide, calcium phenoxide, tetramethylammonium hydroxide, tetraethylammonium hydroxide, tetrapropylammonium hydroxide, tetramethylammonium bisulfide, tetraethylammonium bisulfide, or combinations
30 of any two or more thereof.
6. A process according to claim 3 wherein said base is potassium hydroxide, sodium hydroxide, or combinations thereof.

7. A process according to claim 1 wherein said amine is aniline, toluidines, chloroanilines, bromoanilines, iodoanilines, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylanilines, fluoromethylanilines, chloromethylanilines, bromomethylanilines, or
5 combinations of two or more thereof.

8. A process according to claim 5 wherein said amine is aniline, toluidines, chloroanilines, bromoanilines, iodoanilines, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylanilines, fluoromethylanilines, chloromethylanilines, bromomethylanilines, or
10 combinations of two or more thereof.

9. A process according to claim 6 wherein said amine is aniline, toluidines, or combinations of two or more thereof.

10. A process according to claim 2 wherein said phenolic compound is phenol, cresols, chlorophenols, bromophenols, iodophenols, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylphenols, fluoromethylphenols, chloromethylphenols, bromomethylphenols, or
15 combinations of two or more thereof.

11. A process according to claim 5 wherein said phenolic compound is phenol, cresols, chlorophenols, bromophenols, iodophenols, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylphenols, fluoromethylphenols, chloromethylphenols, bromomethylphenols, or
20 combinations of two or more thereof.

12. A process according to claim 8 wherein said phenolic compound is phenol, cresols, chlorophenols, bromophenols, iodophenols, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylphenols, fluoromethylphenols, chloromethylphenols, bromomethylphenols, or
25 combinations of two or more thereof.

13. A process according to claim 6 wherein said phenolic compound is phenol, cresols, or combinations of two or more thereof.

14. A process according to claim 8 wherein said phenolic compound is phenol, cresols, or combinations of two or more thereof.
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15. A process according to claim 14 wherein said contacting is carried out in the presence of a polyhydric alcohol, which is trimethylene glycol, triethylene glycol, glycerol, ethylene glycol, diethylene glycol, 1,2-propane diol, 1,3-propane diol, tripropylene glycol, polyethylene glycol, polypropylene glycol, or combinations of two or more thereof.

16. A process according to claim 15 wherein said polyhydric alcohol is polyethylene glycol.

17. A process comprising contacting a product mixture with a base to produce a base-treated mixture introducing said base-treated mixture to a distillation apparatus

wherein said product mixture comprises an aromatic amine and a phenolic compound;

the molar ratio of said base to said phenolic compound is in the range of from about 1:1 to about 4:1;

said base is lithium hydroxide, sodium hydroxide, calcium hydroxide, magnesium hydroxide, sodium bicarbonate, sodium carbonate, sodium oxide, magnesium oxide, calcium oxide, calcium carbonate, tetramethylammonium hydroxide, tetraethylammonium hydroxide, tetrapropylammonium hydroxide, tetramethylammonium bisulfide, tetraethylammonium bisulfide, or combinations of any two or more thereof; and

said amine is aniline, toluidines, chloroanilines, bromoanilines, iodoanilines, cholortoluidines, bormotoluidines, iodotoluidines, benzylamine, N-benzylamine, ethylanilines, fluoromethylanilines, chloromethylanilines, bromomethylanilines, or combinations of two or more thereof.

18. A process according to claim 17 wherein said contacting is carried out in the presence of a polyhydric alcohol.

19. A process according to claim 17 wherein the molar ratio of said base to said phenolic compound is in the range of from about 1:1 to about 2:1; said amine is aniline, toluidines, or combinations of two or more thereof; said phenolic compound is phenol, cresols, or combinations of two or more thereof; and said base is potassium hydroxide, sodium hydroxide, or combinations thereof.

20. A process according to claim 19 wherein said contacting is carried out in the presence of a polyhydric alcohol, which is trimethylene glycol, triethylene glycol, glycerol, ethylene glycol, diethylene glycol, 1,2-propane diol, 1,3-propane diol, tripropylene glycol, polyethylene glycol, polypropylene glycol,
5 or combinations of two or more thereof.

21. A process according to claim 20 wherein said polyhydric alcohol is polyethylene glycol.

22. A process for separating o-cresol from o-toluidine in a mixture, which comprises said o-cresol and said o-toluidine, comprising contacting said
10 mixture with potassium hydroxide to produce a base-treated mixture and distilling said base-treated mixture.

23. A process according to claim 22 wherein said polyhydric alcohol is polyethylene glycol.